

Sanskruti Jadhav

Pittsburgh, PA | jsanskruti29@gmail.com | +1 864 325 9725

[LinkedIn](#) | [GitHub](#) | [Portfolio](#)

Technical Skills:

- **Programming languages:** C++, Python, ROS, MATLAB, Shell Scripting, C#
- **Tools/Software:** MATLAB and Simulink, Git, Linux, Vector CANdb++ , CANKing, PTP, Docker, Azure
- **Skills:** Sensor Integration, Sensor Data Analysis (2D and 3D LiDAR, Camera, GNSS, Ultrasonic), CAN signal processing, ROS-CAN interfacing, Filtering Applications (Kalman, EKF, Particle), Image Processing Analysis, TCP/IP, Deep learning model performance , MLOps.

Work Experience:

Robotics Computer Vision Engineer | Honey well Pittsburgh

Sept 2023 – current

- Improved the Machine learning model performance by 23% by adding simulation based synthetic data and GenAI data for edge cases of the model.
- Led by implementation of an end-to-end MLOps pipeline with IoT edge application on Azure improving production readiness and efficiency in re-training.
- Collaborated with Cross Functional Teams to rigorous testing, debugging and deployment of HURC codebase to different customers.

Clemson University International Center for Automotive Research (CUICAR)

1. Autonomous Driving Software Engineer | Deep Orange [Link](#)

Jan 2022 -Aug 2023

- Developed 3-ton Autonomous off-road vehicle prototype in Deep Orange project.
- Implemented full stack waypoint navigation by integrating sensor drivers of LiDAR, Cameras, GNSS in the Autonomy stack.
- Implemented precision time protocol for time synchronized data over vehicle local area network (LAN).
- Programmed ROS CAN bridge to test and validate ROS communication of commanded velocities from autonomy stack to the vehicle mid-level controller.
- Deployed ROS MATLAB interface for continuous real-time monitoring of vehicle states and logging data using TCP/IP and CAN connections for post processing and analysis.
- Analyzed and debugged vehicle localization problem of lateral position-drift through troubleshooting GNSS sensor data and testing on vehicle.

2. Graduate Research Assistant | Automation Robotics and Mechatronics Lab May 2022 – Current

- Demonstrated Deep Reinforcement Learning on High Mobility Multipurpose Wheeled Vehicle for steering control on off road terrain environment.
- Deployed the project on Docker- Singularity Containerization platforms to utilize high performance computing infrastructure at Clemson for training of the model.

Achievements:

- Published (first author) research paper on Containerization Approach for High Fidelity Terramechanics Simulations at the SAE International WCX world congress experience. [Link](#)

Senior Engineer Project Component Manager | Bosch Chassis India

Sept 2018 – Jun 2021

- Worked on New product development of WSS & Steering Angle sensors of Anti-lock Braking System (ABS) and Electronic Stability Program (ESP) for Indian OEM's Cars and two-wheelers.
- Supported system and technical requirements management using IBM Doors Tools.
- Collaborated with Cross Functional Teams to efficiently provide solutions to the OEM's requirements.

Graduate Training in Preventive Management Quality | Bosch Chassis India

- Collaborated in the Advanced Product Quality Planning (APQP) process in the product development cycle.
- Supported process release, approval of PPAP and resolution to brake part quality issues before SOP.
- Audited & documented the internal/ global supplier manufacturing, testing processes PFMEA, DFMEA, Safe Launch Plan before Start of Production SOP.

Education:

Clemson University, Master of Science

Major: **Automotive Engineering Specialization in Vehicle Autonomy**, GPA 3.76 / 4.0

Aug 2021 – Current

Clemson, USA

University of Pune, Bachelor of Engineering,

Major: **Mechanical Engineering**, GPA 3.50 / 4.0

Aug 2013 – May 2017

Pune, India

Academic Projects:

- **Autonomous navigation of Vehicle in Rough terrain** – MathWorks MATLAB excellence in Innovation program
 - Simulated Waypoint navigation and RRT* path planning algorithm on Turtlebot using Gazebo and Simulink.
- **Adaptive Cruise control and emergency stopping implementation on RC CAR**
 - Tuned the RC Car for lane following, emergency stopping and adaptive cruise control using PID controller and ultrasonic sensors.
 - Applied Kalman Filter to the noisy sensor data of all the ultrasonic sensors.
- **Autonomous Navigation of Turtlebot3 burger**
 - Controlled navigation of Turtlebot equipped with LIDAR and camera in dynamic obstacle environment.
 - Demonstrated Turtlebot April tag, line following and stop sign detection tasks using YOLO v3 using camera sensor mounted on the bot.
 - Demonstrated person following ability of the Turtlebot using 2D Lidar sensor mounted on the bot.
- **Halloween themed Witch game development using Software Design Patterns**
 - Developed game using python object-oriented programming and software design patterns such as Singleton, Factory and Cloning Pattern.
 - Practiced Clean Coding and GIT version control techniques during implementation of this project.
- **Deep Learning Drivable area detection for inclement weather**
 - Modelled a convolutional neural network for detecting drivable area (segmented) in inclement weather images from BDD100k Dataset.
 - Tested Model on inclement weather videos which resulted mean IOU score of 44.15%.
- **Implementing Search based algorithm for path planning.**
 - Modelled function to output path costs based on different algorithms: Depth-first Search and Breadth-first search cost, A*, RRT*, Dijkstra

Certifications:

- MathWorks Excellence in Innovation program [Accepted solution to project 209](#)
[YouTube tutorial](#)
- Nvidia Fundamentals of Deep Learning
- Machine Learning Specialization Coursera by Andrew Ng
- Azure Machine Learning & MLOps: Beginner to Advance